

ARAPAHO - ROOSEVELT NATIONAL FOREST and PAWNEE NATIONAL GRASSLAND



Forest & FTC Zone Aviation Plan 2014



August 2013. Beetle-killed stands on East side of the Never Summer Wilderness, Arapaho-Roosevelt NF

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June 6, 2014

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10 STANDARD AVIATION ORDERS

1. Ensure Pilot and aircraft are approved for the planned flight (mission).
2. Obtain weather forecasts, winds and visibility within prescribed limits.
3. Determine flight plan is complete, filed with agency, flight following procedures established and flight following operational.
4. Use only personnel trained and qualified for mission and follow agency standard operating procedures.
5. Ensure weight and balance calculations are completed and being adhered to by the pilot.
6. Pilot briefed by personnel on intended mission and hazards.
7. Obtain hazard map and review for low-level flights.
8. Provide aircraft safety briefing to all passengers.
9. Determine pilot flight/duty limitations are not exceeded.
10. Stay alert, be calm, think clearly, and act decisively.

12 AVIATION SITUATIONS THAT SHOUT "WATCH OUT!"

1. Any deviation from assigned flight plan or mission, you are driven by a sense of urgency.
2. It is unclear who is in charge of the mission.
3. Not informed on strategy, tactics, and hazards.
4. Instructions and assignments not clear, conflicting priorities.
5. No communication link with ground crews/supervisors, and communications are getting tense.
6. Other aircraft assigned/operating in the area.
7. There is a better type aircraft for the mission, or way to do it.
8. An escape route has not been planned.
9. Cargo has not been checked or secured.
10. Required survival equipment is not available.
11. Required personal protective equipment is not available, or not worn.
12. Agency rules or standard operating procedures are not adhered to.

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INTRODUCTION

This aviation operations plan provides guidance for effective and efficient aviation operations for the Arapaho Roosevelt NF and Pawnee NG. The plan condenses direction from the Forest Service Manual (FSM 5700), Flight Operations Handbook 5709.16, National and Regional Aviation Safety/Management plans, plus additional Forest Aviation Policy and interagency agreements. This Plan is an addition, not a replacement for Forest Service Manuals and Handbooks. Any questions regarding this plan should be directed to the ARF Forest Aviation Officer (FAO), or to the Regional Aviation Officer, if the FAO is not available. All guidance, direction and information in this plan is predicated on risk management.

This plan is written as a reference for the individual who is unfamiliar with current Forest Service and interagency aviation policies. This plan includes information for aircraft operations including: definitions of terms, pre-flight planning, flight operations, and post-flight procedures for most Forest Service and interagency aviation missions. These missions include point-to-point and reconnaissance, restricted airspace, coordinating news media, air tanker, and helicopter operations, disaster preparedness, outservice cooperation and inspections.

LOCAL ENVIRONMENT & CONDITIONS

Area topography ranges from low rolling plains at 4000' in the east to elevations greater than 14,000 feet along the Continental Divide. Mountain weather changes quickly and could produce adverse conditions, such as thunderstorms, high winds, icing, turbulence, downdrafts, etc. The majority of the National Forest area is steep and highly dissected with canyons and drainages.

The climate is characterized by frequently windy Spring seasons. This is followed by the unstable air conditions in June, July, August, and September with thunderstorm development over the mountains; these storms generally move to the north and east. Upslope conditions occur in winter and spring where fog or rain and snow conditions form on the plains and back up against the mountains. In this situation front range airports occasionally experience low or near zero ceilings, while clear weather may prevail at higher elevations above 7000 feet. There is also a great difference in air temperatures at Front Range airports opposed to those in the mountains.

These varied climatic conditions can create potential hazards to aviation safety and requires thorough pre-mission planning. Some specific hazards that may be encountered are:

1. High density altitudes.
2. Rapid deterioration of weather conditions.
3. Mountain Wave
4. Turbulence, up and down drafts, strong winds, wind shear, and thunderstorms.
5. Pressure Altitude

RESPONSIBILITIES AND AUTHORITIES

Are addressed in detail in the Forest Service Manual 5704, and interagency guides and plans.

1. Regional Aviation Officer, Sandra LaFarr, 303-275-5740, Golden. The R2 RAO is responsible for directing and managing regional and Area aviation programs in accordance with all applicable directives including Federal Aviation Regulations, the National Aviation Management Plan and National Aviation Safety Plan. These responsibilities include:

- a. Ensuring that Regional/Area and forest/station plans are supplemented and updated annually to ensure compliance with the current National Aviation Plan, written annually by the Washington Office Director of Fire and Aviation staff.
 - b. Reviewing Project Aviation Safety Plans and Forest Aviation Plans, including cost comparisons, risk assessment and job hazard analyses.
 - c. Ensuring compliance with aviation management and safety policies and procedures.
 - d. Conducting safety evaluations of aviation operations.
 - e. Coordinating with the Regional Aviation Safety Manager on aviation safety and accident prevention matters.
 - f. Maintaining coordination with Forest Service Aviation Officers on Forest aviation matters.
2. Forest Supervisor Glenn Casamassa: 970-295-6600, SO, Fort Collins.
- a. Establish, administer, and manage national aviation resources assigned to the Forest and oversee an aviation program responsive to the Forest's needs in accordance with current direction.
 - b. Supplement the Aviation Management Plan as appropriate.
 - c. Ensure that projects and activities involving the use of aircraft are planned in advance by qualified personnel.
 - d. Designate Forest aviation officers (FSH 5709.16).
 - e. Approve all aviation operations on the forest in advance of commencing operations. With the exception of Aviation Plans or related documents requiring line officer approval, this authority may be delegated. (See 5711.04)
3. Forest Aviation Officer Geoffrey Bell: 970-295-6631, Fort Collins.
- Forest aviation officers are responsible for aviation activities at the forest level including responsibility to:
- a. Oversee aviation mission planning, operations, and risk assessment.
 - b. Ensure compliance with aviation management, safety policies, and procedures.
 - c. Provide input and follow-up to SAFECOMS involving aviation operations on the Forest.
 - d. Conduct periodic safety evaluations of aviation operations.
 - e. Evaluate aircraft effectiveness, including cost and utilization.
 - f. Ensure that all Forest Aviation Plans and Project Aviation Safety Plans are supplemented, updated, reviewed, and approved at the appropriate management level.
 - g. Coordinate with Regional Office aviation management as necessary.
 - h. Coordinate Forest aviation training.
4. Airtanker Base Manager, Robby Cline: 303-439-0332, Broomfield.
- a. The Airtanker Base Manager (ATBM) is responsible for all Airtanker, Fixed wing, and rotory aircraft operations at the Jeffco Airtanker Base.
 - b. The ATBM may serve as the backup FAO.
5. Northern Colorado Helitack.
- a. Administration of the Exclusive Use Helicopter contract is by the National Aviation Office in Boise, Idaho.
 - b. Contracting Officer is Jeff McGinley.
 - c. Contracting Officer Representative is the R2 HOS (Jim Lawson,).
 - d. Helicopter Manager (Corey Lewis) reports directly to the Canyon Lakes Ranger District FMO, and serves as the Project Inspector, and may serve as alternate COR.
6. Fort Collins Interagency Dispatch Center, Allyn Herrington, 970-295-6830, Fort Collins

- a. The FTC Manager is responsible for ordering and dispatching aircraft, ensuring that flight plans have been made, flight following, coordinating aviation projects, and maintaining vendor aircraft and pilot agreements.
7. District Rangers
 - a. Keep the Forest Supervisor and Forest Aviation Officer informed concerning the existing use of aircraft and the need for aircraft services to accomplish District work.
 - b. Request technical assistance in planning and supervision of aviation operations.
 - c. Ensures that project aviation plan has been developed and approved for all planned aviation projects.
 8. All Forest Service Employees / Interagency Cooperators
 - a. All personnel requiring aircraft services shall place their order with FTC.
 - b. All personnel are responsible for reporting any aviation activity observed which they believe to be done in a hazardous manner to the appropriate agency authority.
 - c. When conditions indicate further aviation activity will jeopardize the safe conduct of the operation, employees will initiate action to stop the operation and report using the SAFECOM format (FS-5700-14) circumstances and action taken to the official in charge.
 - d. Provide input to Project Aviation Safety Plans in conjunction with FAO.

AREA AIRPORTS & HELIBASES

1. Airports: See appendix "B" for Airport Diagrams and Information.
2. Helibases / Helispots: See Supplemental Documents and References (p. 29)

Established and approved single-ship helibases on the Forest are located at the Forest Service Administrative Site in Fort Collins and at the Redfeather Lakes Work Center. Jeffco Airtanker Base is established and approved to operate as a multi-aircraft helibase. When necessary to construct unplanned helispots, they will be built in accordance with IHOG standards.

AIRCRAFT CERTIFICATIONS & QUALIFICATIONS

Aircraft approved for U.S. Forest Service and interagency use will be issued cards indicating missions for which they are approved. Cards will be valid for one year from date of issue. Cards will be carried aboard the aircraft when operating on a Forest Service or interagency mission, and will be presented for inspection upon the request of any employee. Any aircraft approved and carded by the Office of Aircraft Services (OAS) may be used by the Forest Service for those specific missions (identified on the card) authorized by OAS (low-level recon and game counting excepted). Forest Service re-inspection and carding will be at the discretion of the Regional Air Officer, or Zone Officers.

1. All aircraft will be functionally equipped as specified either in the contract or the rental agreement form.
2. Aircraft will be equipped in accordance with FAR 135, and will meet or exceed all equipment requirements for missions for which the aircraft is approved. This includes, but is not limited to; IFR conditions and oxygen requirements for flights over 10,000 feet under 30 minutes in duration.
3. Each aircraft will also be equipped with the following safety-related equipment.
 - a. An FAA approved shoulder harness for each front seat occupant.
 - b. One or more FAA approved strobe lights.

4. Aircraft shall not be approved if engine time exceeds the manufacturer's recommended TBO. New or overhauled engines must accumulate three hours of operating time prior to USFS use. This time will include a minimum of two hours continuous flight time on the engine. In the case of a double engine change, each engine shall have a minimum of five hours flight time on that aircraft, at least two hours of which shall have been continuous.
5. All manufacturers' Mandatory Service Bulletins and Supplemental Type Certificates shall be complied with.
6. All maintenance records and other documents needed to verify data for aircraft approval shall be made available for the inspectors.
7. Single engine aircraft will not be approved for night or IFR operation. Certain night operations not involving passengers may be conducted at the discretion of the RAO or Zone Officers as outlined under OPERATING RULES. The pilot is the final authority as to the safety of the mission.
8. All aircraft flown on Forest Service or interagency missions within Region, refer to Region 2 Aviation Plan.

AIRCRAFT AVAILABILITY

U. S. Forest Service

1. Currently, there are two USFS aircraft operated by the Aviation Group in the Rocky Mountain Region. They are based most of the year at Rocky Mountain Metro Airport in Broomfield, CO. The aircraft are available upon request to the FTC dispatch Center. These aircraft are a Cessna 206 and a King Air 90 Leadplane.
2. Call-When-Needed Aircraft: See Call When Needed Aircraft Reference Binder, located in FTC Dispatch, updated annually by the FTC Aviation Dispatcher.
3. FTC-zone Contract Aircraft; An exclusive use contract helicopter is based at the Ad Site (Fort Collins) for 100 days from approximately early June through September.
4. A heavy airtanker may be available at the Jeffco Airtanker Base.
5. The Colorado Division of Fire Prevention and Control (DFPC) has single-engine light airtankers on contract. These aircraft specifications vary annually. Contact FTC for current information. Fort Collins Interagency Dispatch Center will maintain a current copy of the SEAT Operations Plan. For specific SEAT information refer to the Rocky Mountain Mob Guide, Chapter 80, Section 83.3.1.
6. A Type 1 Helitanker under contract to Region 2 may be available at the Jeffco ATB.

All aircraft referenced above are ordered through FTC.

Colorado National Guard

CONG Helicopters may operate on all-hazard and firefighting missions within the FTC Zone and on the ARF. These aircraft may not be mobilized via the Interagency Dispatch System and would likely be authorized by local entities or Counties. Communication with CONG aircraft still utilizes standard VHF Air to Air and Air to Ground frequencies, as identified in the 2014 RMA A/A and A/G Aviation frequency map, referenced in the Supplemental Documents and references.

PILOT QUALIFICATIONS AND CERTIFICATION

See attached Pilot Safety Briefing

Contractor pilots approved for U.S. Forest Service and interagency use will be issued cards indicating missions for which they are approved. Cards will be carried on the pilot's person whenever flying a Forest Service or interagency mission, and will be presented for inspection upon the request of any employee of the U.S. Forest Service or cooperating agency. Pilots will fly only those missions for which they have been approved. Any pilot who has been approved and carded by the National Business Center, Aviation Management of the OAS may be used by the Forest Service.

Colorado National Guard Pilots are approved for Emergency Life Saving missions and/or Wildland Fire Fighting activities on NFS lands as identified in the annual update from the R2 Regional Office, per the Colorado State Fire Coop Fire Management Agreement and in accordance with Forest Service Manual 5712.34. Refer to the Supplemental Documents and References.

Refer to 2014 U.S. Forest Service Region 2 Aviation Management Safety Plan.

<http://gacc.nifc.gov/rmcc/logistics/aviation.html>

PILOT BRIEFINGS

Flight hazard maps are available and located in FTC Dispatch Center (aircraft desk) and JeffCo Airtanker Base Pilot briefing room. Maps are updated annually or as significant changes occur.

The pilot will study local area maps and become familiar with hazards to flight such as towers, power lines, cables, mountainous terrain, and military low level training routes. District Fire Duty Officers (or Forest Duty Officer brief incoming / visiting aviation resources (helitack Crews) using the standard FTC-Zone briefing package, containing maps, organization charts, radio frequency lists, pocket cards and other pertinent fire operations information. The briefing packet is updated as needed, most recently in 2010.

The pilot is responsible for:

1. The safe accomplishment of the mission, security and condition of the aircraft and cargo, and the safety of the passengers.
2. Observing policies concerning operation of the aircraft, authorized passengers, and mission requirements.
3. Postponing, changing, or cancelling flights when he/she believes existing or impending conditions make them unsafe.

Forest Service management has mission control and authority to order the mission, delay or cancel the flight as deemed necessary. The pilot has the last say as to whether the mission can be accomplished safely. This is a team approach. The desired result is safe mission accomplishment.

Employees have the authority and responsibility to cancel or delay flight operations if they deem there are unsafe conditions or situations.

PILOT FLIGHT & DUTY LIMITATIONS

All pilots flying Forest Service missions will be limited to the following tours of duty. All flying, parts 135, 133, 137 and part 91 (including ferry flights) count towards that limitation.

1. Flight time will not exceed a total of 8 hours per day. Two pilot crews flying point-to-point (airport to airport, heliport to heliport, etc.) will be limited to 10 hours flight time per day. Pilots flying point-to-point who are also flying other Forest Service missions will be limited to 8 hours flight time per day.

2. Flight time will not exceed a total of 42 hours in any 6 consecutive days.
3. Pilots accumulating 36 to 42 hours of flying time in any 6 consecutive days will be off-duty the following full calendar day.
4. Within any 24 hour period, pilots will have a minimum of 10 consecutive hours off duty immediately prior to the beginning of any duty day.
5. Duty includes flight time, ground duty of any kind, and standby or alert status at any location.
6. During any 14 consecutive days, pilots will be off duty for 2 full calendar days. Days off duty need not be consecutive. A duty day is any day a flight is made or 4 hours or more of duty is performed.

OPERATING PROCEDURES

The following is intended as information to passengers / users: All operations, unless otherwise more limited, will be conducted in strict accordance with applicable FAR'S. Any violations will be reported to the Regional Aviation Safety Officer or Regional Aviation Officer.

1. PILOT AND AIRCRAFT USE. Only pilots and aircraft specifically approved and carded by the USFS or OAS will be used, and then only for those missions for which approved.

Dispatch will arrange for the plane and time, it is the Fixed-wing Flight Manager's responsibility to ensure the appropriate aircraft and pilot card (FS/OAS) for the specific mission has been issued prior to the flight. and check for proper "N" number of aircraft.

When checking aircraft cards, the expiration date and "N" number on the aircraft tail must match what the aircraft use is carded for and the inspectors signature. If there are questions about the card or the plan, call FTC dispatch or the Forest Aviation Officer.

Pilot cards should be checked for expiration date, type of aircraft, type of authorized use, proper name, and type of flying, such as day and night, VFR and/or IFR.

Cards are not required for scheduled commercial airlines. Licensed pilots may not fly on official business unless approved by Regional Aviation Officer and carded.

The following types of aircraft will not be used by Forest Service employees for transportation:

- a. Aircraft that are not carded.
- b. Air tankers.
- c. Aerial application aircraft - seeding, spraying.
- d. Helicopters carrying an external load.
- e. Military aircraft - unless there is written approval from the Regional Aviation Officer.
- f. Any aircraft that does not meet contract specifications.

2. PRE-FLIGHT. The following applies to both point-to-point travel and reconnaissance flights and is intended as information to passengers / users: Aircraft needed for fire or project work will be ordered through the dispatch center. The dispatch center will obtain the aircraft. When ordering aircraft, specify the number of passengers, expected duration of flight, mission, and destination. This should be done by the Fixed wing Flight

Manager or Fixed Wing Flight Manager-Special Use. Qualifications are listed in the Interagency Aviation Training Guide. <https://www.iat.gov/docs/IATprogram.pdf>

If unsure of required aircraft, consult the FTC Aviation Desk or the Forest Aviation Officer. It is important to note that an aircraft may have seats for "x" number of passengers, but may not be able to carry all of the load due to performance capabilities. Ordering should be done at least a week or two in advance unless it is an emergency. Most aircraft are available on a first-come-first-service basis unless it is an emergency.

Dispatch should be notified of flight plans in advance in order for preflight planning to be done. If any changes are made, both dispatch and the pilot should be notified. Pilots need to be notified of passenger weights and cargo so weight and balance and fuel computation can be accomplished. The pilot must know approximate duration of the mission and/or approximate distance. The pilot is responsible for computing fuel reserves so be ready to give specifics of approximate duration of the mission. Duration could be expressed in hours or distance.

3. PREFLIGHT INSPECTIONS. Daily preflight inspections by the pilot are mandatory. The preflight inspection will be accomplished prior to the first flight of the day and prior to the start of the daily availability (if applicable).

4. AIRCRAFT CLEANLINESS. Aircraft will be maintained in a neat and clean condition, both inside and out.

5. SUBSTITUTE AIRCRAFT. A carded aircraft of different make and model will not be substituted for that ordered without the prior approval of the Forest Service Dispatcher who ordered the flight.

6. LOADING PROCEDURES. The pilot will insure the aircraft is operated within allowable weight and balance conditions. Performance charts will be used to determine aircraft performance. Cargo will be secured when carried within the cabin. All engines will be shut down while loading or unloading passengers or cargo.

7. CHECKLIST. Pilots shall have available and use a cockpit checklist.

8. OPERATING INFORMATION. The operator must provide in current and appropriate form, accessible to the pilot at the pilot station, all charts and documents as required by FAR 135.83.

9. UNCONTROLLED AIRPORT PROCEDURES: It is essential that pilots be alert, look for other traffic, and exchange traffic information with other pilots when approaching or departing from an airport without an operating tower. All Forest Service employed or contracted pilots will utilize the common traffic advisory frequency (CTAF) designated for the airport to communicate their intentions and to obtain airport and traffic information. Communications will be established with a flight service station (FSS), a unicom station, other ground facility if available, or by making self-announced broadcasts, whichever is appropriate for that airport. The CTAF for a particular airport can be obtained by consulting the FAA's Airport Facility Directory, AOPA's Airports USA, Flight Guide publication, WAC Charts, Sectionals, or Jeppesen approach charts if so charted as an Instrument Approach Airport (IPA).

Arrival Procedures - Communications

1) Pilots of arriving aircraft will select and monitor the designated CTAF or ATC assigned frequency when the aircraft is not less than 10 miles from the airport, except when FAR's or local procedures require otherwise.

2) Communications will be established and maintained with the appropriate ground facility not less than 5 miles from the airport or the pilot will make self-announced broadcasts if no ground facility is available.

3) Communications will include the pilot's intentions, aircraft location, altitude, and any other information the pilot deems necessary to ensure the safe outcome of the arrival.

4) Sterile cockpit procedures will be maintained at all times while within a 5 mile radius of the airport. No radio or cockpit communication will be performed during that time that is not directly related to safe flight of the aircraft until after landing and clearing the runway.

Uncontrolled Airport Arrivals - Traffic Patterns/Procedures

1) When two or more aircraft are approaching an airport for the purpose of landing, the aircraft at the lower altitude has the right of way, but it shall not take advantage of this rule to cut in front of another which is on final approach to land, or to overtake that aircraft (14 CFR Part 91.113(f).

2) Airports without operating control towers usually have a segmented circle visual indicator system. The device provides visual information on established traffic patterns and comprises the following components: Wind Direction Indicator, Landing Direction Indicator, Landing Strip Indicators, and Traffic Pattern Indicators. Before entering the

traffic pattern at an uncontrolled airport or an airport without an operational tower, the pilot should be concerned with the indicator for the approach end of the runway to be used. When approaching for landing, all turns must be made to the left unless the airport displays approved light signals or visual markings indicating that turns should be made to the right, in which case the pilot must make all turns to the right; and each pilot of a helicopter must avoid the flow of fixed-wing aircraft (14 CFR PART 91.126).

The FAA and Airman's Information Manual (AIM) recommends the following procedures for fixed-wing aircraft entering the traffic pattern at uncontrolled airports:

- 1) Enter the traffic pattern in level flight, abeam the midpoint of the runway, at traffic pattern altitude (TPA).
- 2) Maintain pattern altitude until abeam the approach end of the landing runway on the downwind leg.
- 3) Complete the turn to final at least one-quarter mile from the runway.
- 4) If parallel runways exist, do not overshoot final or continue on a track which will penetrate the final approach of the parallel runway.

Departure Procedures - Communications

1) Pilots of departing aircraft will select the designated CTAF or ATC assigned frequency, establish and maintain communications or make self-announced broadcast prior to taxiing, and announce their departure intentions on the appropriate frequency prior to taxiing onto the active runway and prior to take-off roll.

2) Communications will include runway departing, direction of flight after departure, current altitude and altitude climbing to and any other information the pilot deems necessary to ensure a safe outcome of the departure.

3) Sterile cockpit procedures will be maintained at all times while within a 5 mile radius of the airport. No radio or cockpit communications will be performed during that time that is not directly related to safe flight of the aircraft.

4) The CTAF or ATC assigned frequency will continue to be monitored until the aircraft is at least 10 miles from the airport, except when FAR's or local procedures require otherwise.

Uncontrolled Airport Departure Procedures

The FAA and Airman's Information Manual (AIM) recommend the following procedures for fixed-wing aircraft when exiting the traffic pattern at an uncontrolled airport:

- 1) On takeoff, maintain runway heading until beyond the departure end of the landing runway.
- 2) If remaining in the traffic pattern, begin the turn to crosswind beyond the departure end of the runway and within 300 feet of pattern altitude.
- 3) If departing the traffic pattern, continue straight out or exit with a 45-degree left or right turn beyond the departure end of the runway after reaching pattern altitude.
- 4) If parallel runways exist, do not continue on a track which will penetrate the departure path of the parallel runway.

Sterile Cockpit

Is a procedure by which the crew of an aircraft do not perform any conversations between each other, with other aircraft or with any ground facility that are not directly related to flying the aircraft in a safe manner. Normally this would consist of reading checklists, communication with Air Traffic Control (ATC), Flight Service Stations, a Unicom, or other aircraft with the intent of ensuring separation from other aircraft or complying with ATC requirements. Sterile cockpit procedures will be maintained, whenever feasible, within 5 miles of all airports whether controlled or uncontrolled. Checking in with the dispatch facility should not be accomplished during this time.

Exception to Sterile Cockpit Requirement

There may be occasions when there is a fire within 5 miles of an airport, making it impossible to maintain the sterile cockpit. Under these circumstances, the departing aircraft shall maintain a sterile cockpit until departing the traffic pattern and reaching final altitude, at that time performing any mission required communications. The pilot will continue to monitor the CTAF frequency until engaged in the firefighting activity but should continue to monitor the CTAF if feasible.

Upon completing the fire mission or being released from the fire, the pilot shall immediately select and monitor the CTAF frequency, if not already monitoring it, and maintain a sterile cockpit as soon as practical, but no later than upon entering the traffic pattern.

10. PASSENGER MANIFEST: No passengers other than those authorized by the Forest Service may be carried on flights. Any change in passengers or crew members must be reported to FTC Dispatch before the flight proceeds. Passenger names and weights and cargo weights must be accurately recorded for each flight.

11. HAZARDOUS MATERIALS. (For operators approved by the FAA for Hazardous Materials transportation) All hazardous materials shipped by air must be transported in accordance with 49 CFR Hazardous Materials Regulations, Part 175, Carriage by Aircraft. Fuel for chain saws, pumps, etc. must be transported according to the "Interagency Aviation Transport of Hazardous Materials Guide". Obvious safety precautions to prevent fire must be observed, such as keeping the fuel containers clear of the electrical circuits and no smoking.

12. PASSENGER BRIEFING. *Passengers shall be briefed by the pilot before each flight on the following:*
a. Seating and use of seat belts and shoulder harnesses.

- b. Proper opening, closing and locking of passenger doors.
- c. Emergency procedures to include the location and operation of exits.
- d. Location and manual activation of the ELT (Emergency Locator Transmitter).
- e. Location of first-aid kit, survival kit, and fire extinguisher.
- f. Use of oxygen system.
- g. Smoking.

13. REFUELING / FUEL RESERVES. Refueling is the responsibility of the pilot or other company personnel under the pilot's supervision. NO refueling with the engine(s) running, electrical equipment on, or personnel on board. Bonding wires will be used between the service truck tank and the aircraft. A ground wire will be used where proper grounds are available.

Fuel Reserves - The pilot must maintain and have minimum fuel reserves as stated in Federal Aviation Regulations.

14. SINGLE ENGINE PASSENGER TRANSPORT. Operations of single engine airplanes transporting USFS passengers is limited to daylight VFR flying only. Daylight hours are from 30 minutes before official sunrise until 30 minutes after official sunset. Transporting USFS passengers at night in single engine aircraft is prohibited. IFR flight in single engine aircraft is prohibited. Operators and/or pilots of single engine aircraft may elect to conduct Forest Service ferry flights or cargo flights at night at the discretion of the RAO or FAO.

15. NIGHT LANDINGS. No pilot flying a night mission may land at an airport unless it meets FAA lighting standards.

16. RECONNAISSANCE FLIGHTS. Only qualified and designated observers will be used on Recon Flights. FTC Dispatch maintains a list of qualified observers. No passengers other than those necessary to complete the recon mission will be carried. Except for takeoff and landing, no airplane will be flown below 500 feet AGL (above ground level). Additional information on Recon flights can be found starting on page 22.

17. FLIGHT FOLLOWING - FTC.

Ft. Collins Interagency Dispatch Center uses the following 3 frequencies for flight following.

FTC Local Flight Following- 172.2750

National Flight Following – 168.6500

Local Forest frequencies may be used (reference FTC-Zone briefing packet – 2010).

When possible FTC Local Flight Following should be the first choice. This will give Fort Collins Dispatch and the aircraft their own uninterrupted line of communication.

National Flight Following will be the second choice.

Local Forest frequencies will be the third choice.

Pilots will familiarize themselves with the most practical and direct route of flight to each destination and proceed accordingly at normal cruise speed. When scheduled departure or arrival times will not be met within 30 minutes, pilots/operators will notify the appropriate Forest Dispatcher of the delay. All flights MUST be on a filed flight plan, either with the FAA or a FS dispatcher. FAA flight plans must be filed for point-to-point flights. Recon or similar flights on a Forest will require flight following either by 15 minute radio check-ins or by using Automated Flight Following with the appropriate Forest dispatcher. Please use the NICC 800# for pre, post, and enroute mission check-ins.(800-994-6312) when crossing geographic area boundaries.

All flights conducted under FAA Instrument Flight Rules (IFR) are automatically provided FAA flight following.

Administrative flights conducted under Visual Flight Rules (VFR) flight plans require the pilot to file a flight plan with the appropriate FAA facility. The pilot must request FAA flight following. Air Traffic Control (ATC) may or may not provide it. It is the pilot's responsibility to confirm with dispatch which type of FAA flight plan/flight following will be used. The pilot shall close out the flight plan with the FAA once the flight is completed. FAA flight plans and flight following are generally used for point-to-point flights and the pilot or flight manager will contact dispatch with an estimated time of departure (ETD), estimated time en route (ETE) and close out with dispatch once the aircraft is on the ground (ATA) to accomplish resource tracking. (ATA = Actual time of Arrival)

For mission flights, there are two types of Agency flight following: Automated Flight Following (AFF), and Radio Check-in. AFF is the preferred method of agency flight following. If the aircraft and flight following office have AFF capability, it shall be utilized. Periodic radio transmissions are acceptable when utilizing AFF. See AFF procedures section for more detailed information. Radio Check-in / Check-out flight following requires verbal communication via radio every 15 minutes. The dispatcher will log the aircraft call sign, latitude, longitude, and heading. Agency flight following may be used for all mission flights as requested. Helicopters conducting Mission Flights shall check-in prior to and immediately after each takeoff/landing per IHOG 4.II.E.2. For point to point flights, AFF flight following may be used as well. The pilot or flight manager will, as a minimum, contact dispatch prior to the flight with an ETD, ETE, fuel on board (FOB), souls on board (SOB) and will close out with dispatch once the aircraft is on the ground.

Flights that are to be conducted at low level or in areas where radio communications are inadequate are expected to notify the monitoring station of their location, intentions, and when to expect the next check-in. In these instances, a flight may not be out of radio contact for more than thirty minutes. Dispatch should monitor working aircraft frequencies during these times, to avoid calling during mission critical operations. Pilots will monitor assigned frequencies at all times. Pilots must notify dispatch when they have established positive communications with an incident and are switching to incident flight following. When airtankers, lead planes, smokejumper aircraft, and helicopters establish two way radio communications with an Air Tactical Group Supervisor (ATGS), they may transfer their flight following to the ATGS. ATGSs are expected to give status reports on all aircraft under their control. Once released by the ATGS, pilots may resume flight following with dispatch.

a. Flight following on a 15 minute check-in interval if AFF is unable to be used. The dispatcher is required to record the information and in the event that a check in is not received, an attempt to contact the pilot on the appropriate frequency will continue. In the event that two way radio communications cannot be reestablished, the dispatcher will initiate the initial phase of the crash rescue plan.

b. The following information should be provided and documented for flight following:

1. Time of check in.
2. Current position of aircraft (lat/long, geographical landmarks, etc.)
3. Direction of travel (unless orbiting or consistently working in one area)
4. Any changes in flight plan or status.

c. Before any flight is initiated, the dispatcher should have a full understanding of the purpose of the mission, destination, expected duration, identity of passengers, type/quantity of cargo, check-in intervals, communications plan, and the crash rescue plan. (This is normally accomplished by providing the dispatcher with a copy of the Project Aviation Safety Plan and/or by including the dispatcher in the pre-mission briefing.)

Two way radio communications or automated flight following must be maintained with all aircraft, which the dispatcher has agreed to flight follow, throughout the duration of the flight.

Flight following for the purpose of possible search and rescue, or repositioning aircraft, any point to point flight outside of agency flight following requires an FAA Flight Plan to be on file.

Automated Flight Following (AFF) Requirements & Procedures

AFF reduces the requirement to “check in” via radio every 15 minutes, and provides the dispatcher with a wide range of information on the flight, airspace, and other data that may be pertinent to the flight. This reduces pilot workload, clears congested radio frequencies, and provides the dispatcher with much greater detail and accuracy on aircraft location and flight history.

AFF does not eliminate the requirement for the pilot/flight manager to coordinate flight following with the scheduling dispatch office. Preflight communications should always be made and the appropriate flight following procedures “agreed upon” between pilot and dispatch.

Pilots must monitor at least one predetermined radio frequency as an alternate means of flight following in the event the AFF system fails in the aircraft or in dispatch, or in case dispatch needs to cancel a mission, divert that aircraft to a higher priority incident, or relay other critical information regarding hazardous weather, new TFRs, etc.

A. Requirements to Utilize AFF:

1. Automated flight following does NOT reduce or eliminate the requirement for aircraft on mission flights to have FM radio capability, and for the aircraft to be monitoring appropriate radio frequencies during the flight.
2. Procedures for flight requests, ordering aircraft, requirement for a Flight Manager, etc., are the same as radio check-in procedures.
3. The aircraft must be equipped with the necessary hardware (transmitter and antenna).
4. The dispatch office responsible for the flight following must have a computer connected to the Internet immediately available to them in the dispatch office. Dispatch office(s) responsible for flight following shall be staffed for the duration of the flight.
5. Training: The flight following dispatcher must have a working knowledge of the automated flight following program (Webtracker) and must have a current username and password for the automated flight following system.

B. Procedures for Utilizing AFF:

1. When an aircraft is ordered, or a user requests flight following from a dispatch office, and the above listed requirements are met, automated flight following will be utilized.
2. The dispatch office will log on to the AFF web site, verify that the aircraft icon is visible on the screen, and be able to quickly monitor this page at any time during the flight.
3. The dispatch office will provide the pilot with FM frequencies and tones that will be monitored for the duration of the flight.
4. The pilot will relay the flight itinerary, ETD, ETA, FOB, and SOB to the dispatch center.

5. When aircraft is initially airborne, and outside of sterile cockpit environment, the pilot will contact the dispatch office via radio stating "Nxxxx off (airport or helibase name), ATD, SOB, FOB and ETE on AFF". This is required to positively verify that both the aircraft and the dispatch office are utilizing AFF, radios are operational, and that the dispatcher can "see" the aircraft on the computer screen. If there is a problem at this point, change to radio 15-minute check-in procedures until the problem is resolved. If radio contact cannot be established, the pilot will abort the mission and return to the airport/helibase.
6. If there is a deviation from the planned and briefed flight route, the pilot will contact the dispatch office via radio with the changed information, or designated base in charge of that aircraft.
7. The dispatch office will keep the AFF system running on a computer for the entire flight, monitor the computer, and document the aircraft call sign, latitude, longitude and heading for the duration of the flight.
8. If the aircraft icon turns red, the signal has been lost. Immediately attempt contact with the aircraft via radio and follow normal lost communication, missing aircraft, or downed aircraft procedures as appropriate. If radio contact is made after a lost signal, flight may continue utilizing 15 minute radio check-ins for flight following. (During tactical operations below 500' a periodic red indication is normal and does not necessitate an 'immediate' contact especially if flight following has been established with the incident. This should be addressed during the pre-flight briefing.)
9. When the aircraft has completed the flight and landed, the pilot or flight manager, passenger, observer, Flight Manager, ATGS, etc.) shall contact the dispatch office via radio or telephone informing them that they are on the ground.
10. If the flight will cross "traditional dispatch boundaries," the originating dispatch office must coordinate with affected units, and establish if the aircraft will be flight followed for the duration of the flight from the originating office or handed off when the border is crossed. Either option is acceptable but must be communicated and understood between dispatch offices and pilots/flight managers. Additional information about AFF can be found at: <https://www.aff.gov/>

OPERATIONAL POLICY

All aviation activities will comply with the Federal Aviation Regulations (FARS), the Forest Service Health and Safety Code (FSH 6709.11), and the Forest Service Manual (FSM 5700), Flight Operations Handbook 5709.16 and Interagency Helicopter Operations Guide. The following are a series of key policy statements that should be generally known and understood by all persons involved with aircraft on the ARNF/PNG. Forest Service Manual 5700 and related handbooks will be needed for a complete library of policy direction. A set is located in the Dispatch Center.

1. Authorized Passengers

Day trip approvals (on the day trip authorization form 5700-12) can be approved by the Forest Supervisor or acting. Non-government passengers approved on FS aircraft are considered SES and must be reported to the RAO (with flight data information) in order to be documented for SES flight reports.

Persons scheduled to make detection flights for any purpose must be authorized by the Forest Supervisor, FAO or the Forest Fire Qualifications Review Committee.

On all flights, only essential authorized passengers will be flown.

2. Restricted Air Space - Federal Aviation Regulation (FAR) 91.137

When fire suppression or other emergency conditions require significant aviation activity over an area, air space restrictions should be implemented to give the Forest Service control of the air space. It shall be the responsibility of the Dispatch Center or his/her designated representative to initiate the request for air space restrictions.

The Dispatch Center or his/her designated representative is responsible for requesting cancellation of air space restrictions when the conditions no longer warrant the restrictions. See Air Space Restrictions Section.

3. Military Training Routes

There is one Military Training Route (MTR) located on the Canyon Lakes Ranger District. Aviation users should be aware of MTR's and SUA's. Low level military flights (below 500 feet) are common in the MTR's. During activity, military aircraft may be encountered from several feet above ground level to several thousand. Extreme vigilance should be exercised to reduce the potential of a mid-air collision.

4. Flight Scheduling

To ensure that only qualified and designated crew members and observers are used on project and personnel transport flights, all flights must be scheduled through FTC.

5. Flight Operations

The pilot is in command of the airplane and is responsible for the safety of his passengers, but the Fixed-wing Flight Manager is the Forest Service representative and is responsible for assuring that the pilot is not doing unsafe acts or endangering the passengers. As the Fixed-wing Flight Manager, or as a passenger, you are responsible for reporting any incident or accident after the flight. Watch-out situations during flight operations are listed below:

- a. Flying too low
- b. Power lines across canyons
- c. Dead-end or box canyons
- d. Marginal weather
- e. Other aircraft - help the pilot observe!
- f. Single engine at night

In point-to-point operations, check with pilot to see if he has opened his flight plan prior to the flight. This is done by radio to an FAA Flight Service Station. Seat belts should remain fastened during the entire flight. Do not change route, unless necessary because of weather and only after FSS has been notified.

6. Other Agency Aircraft and Pilots

Aircraft and pilots assigned to other agencies (U.S. Fish and Wildlife, BLM, BIA, etc.) must have current Forest Service card, OAS card, or a letter from the Regional Aviation Officer certifying that they are qualified for the mission planned. Military aircraft, including National Guard aircraft and pilots, may not be used without prior approval of the Regional Aviation Officer.

7. Night Flights

No flight will be conducted in a single engine aircraft at night (30 minutes after sundown and 30 minutes before sunrise).

8. Instrument Flights

No flights will be conducted in a single engine aircraft when IFR (Instrument Flight Rules) conditions exist. IFR conditions usually exist when visibility is less than 3 miles and clouds less than 1,000 feet above ground.

9. Low Level Flights

Except for takeoffs and landings, no aircraft will be flown below 500 feet AGL (above ground level). The following exceptions are allowed:

- Lead plane missions.

- Paracargo drops using multi-engine aircraft.

- Aerial ignition seeding, spraying, fertilizing, where an approved project plan is in effect.

- Helicopter operations with approved project plan.

- Retardant missions.

Before any flight missions (under 1000 feet AGL) are scheduled, a review and briefing of the Forest low level flight hazard map must be accomplished. These maps are posted in the Dispatch Office, Redfeather helibase, Forest Aviation Plans, and in the Aerial Observer's Kit. Extreme caution should be used for all flights conducted under 1,000 feet AGL.

10. Communications

Ft. Collins Interagency Dispatch Center uses the following 3 frequencies for flight following.

- FTC Local Flight Following- 172.2750

- National Flight Following- 168.625 Tone: 110.9

- Local Forest frequencies as designated by Incident

When possible FTC Local Flight Following should be the first choice. This will give Fort Collins Dispatch and the aircraft their own uninterrupted line of communication.

Reliable communications must be established between FTC and aircraft flying any mission, except personnel transport, over the Forest. Frequencies will be designated by FTC. Communications will be established before take-off, maintained through the flight, and completed after landing. If communications are expected to be interrupted, notify FTC. If communications by radio are lost, abort the flight, return to nearest airport, contact FTC by phone.

Communication between aircraft and ground resources utilizes standard VHF Air to Air and Air to Ground frequencies, as identified in the 2014 RMA A/A and A/G Aviation frequency map, referenced in the Supplemental Documents and references.

11. Emergency Locator Transmitters (ELT)

All aircraft will be equipped with a functional Emergency Locator Transmitter (ELT). (FAR 9152).

ORDERING, DISPATCHING, CONTROLLING FLIGHTS

1. Ordering Flights

All requests for aircraft, other than scheduled air carriers, will be requested through FTC, with as much advance notice as possible. When requesting a flight, the following information will be provided:

- a. Fixed-wing Flight Manager

- b. Departure point and destination.
- c. Dates and times.
- d. Purpose of the flight.
- e. Number, names, and weight of passengers.
- f. Weight and bulk of cargo or baggage.
- g. Management Code(s).

2. Dispatching Flights

- a. FTC will dispatch all flights.
- b. SES flights; FTC Aircraft desk will administer when needed. see R2 AMSP pg. 31;
http://gacc.nifc.gov/rmcc/logistics/aviation/avmgmnt_safety_plan.pdf

3. Controlling Flights

- a. Aircraft on point-to-point transportation flights will file FAA flight plans. Aircraft on project type flights on the Forest will file a Forest Controlled Flight Plan. Information needed by FTC will be aircraft type and number, names of passengers, type mission, and hours of fuel on board.
- b. All special mission flights will be flight followed (continually monitored and recorded) by the Dispatcher. Position reports will be required every 15 minutes or when a change of direction is made or flight following will be accomplished using Automated Flight Following. Positions reports should be by Latitude and Longitude when possible.

4. Fixed-wing Flight Manager Responsibilities.

- a. Check aircraft and pilot cards.
- b. Ensure passenger/cargo manifest is complete and accurate.
- c. Ensure flight plans are filed.
- d. Brief the pilot and passengers on mission.
- e. Ensure that a Flight Use Report Form 6500-122 is accurately completed and sign it.
- f. Have all personnel within weight limitations, assembled, and ready to board aircraft within 15 minutes of scheduled departure.
- g. Have telephone numbers of sending and receiving dispatch offices to call them with explanations when delays of more than 30 minutes occur.
- h. Provide for the safety and welfare of each person assigned to the manifest list.
- i. Ensure all passengers arrive at their respective destinations.

SPECIAL PROJECTS

See Plan #6 "Project Aviation Safety Plan - Sample"

Aerial projects that require a special project plan:

- 1. Seeding
- 2. Spraying.
- 3. Logging.
- 4. Fertilizing.
- 5. Wildlife, timber, and soil surveys.
- 6. Aerial ignition.

The proponent of a special project (not limited to the above) will contact the Forest Aviation Officer for plan development. Special project plans will meet direction in FSM 5700, and appropriate manuals.

AERIAL OBSERVERS

Aerial Observers will meet the standards as outlined in FSH 5109.17, Fire and Aviation Management Qualifications Handbook. Local training on Radio, GPS, Intercom, Navigation, orientation are highly recommended.

The following procedure for flight plan check-ins and search initiation will be followed for all reconnaissance flights:

1. Prior to take off, the Fixed-wing Flight Manager will file a flight plan with the FTC dispatcher outlining the route to be flown, expected flying time, fuel supply, cruising speed, pilot's name, passenger's names, color of aircraft and "N" number.
2. The Aerial observer kit will be obtained from FTC.
3. Check in by using our flight following frequencies at 15-minute intervals giving location and direction of flight. Location should be by Latitude and Longitude when applicable. Or use Automated Flight Following.
4. The dispatcher will keep a log of "check-ins" noting location, time, and flight direction.
5. Immediately report any changes in flight plan to ground station.
6. If the radio communications fails, the flight will be aborted. Notify FAA station on aircraft radio that the flights is returning to base and request that they notify the Dispatch Center at 970-295-6800.

Air Patrol procedures

1. Reconnaissance and survey

Reconnaissance missions require a high degree of competency and judgment on the part of the pilot and the observer. A knowledge of windage, and proper mountain flying techniques and terrain flying are necessary. Familiarity with the local area is beneficial.

A qualified Fixed-wing Flight Manager – Special Use is required for special mission flights such as recons and survey.

The airplane should be flown to provide the observer with the best possible visibility. The objective should be on the observer's side. Flying should be as smooth as possible to relieve the observer from unnecessary physical strain. The pilot should anticipate the observer's needs and maneuver the airplane rather than force the observer to constantly shift position. The pilot should position the aircraft to best suit the needs of the observer.

Proposed routes should be laid out on a map for each of the foreseeable conditions that may occur. This is done by the Fixed-wing Flight Manager or dispatcher. Systematic profiling of critical points along the proposed route is essential. This permits easier determination of alternate flight routes. Flight routes should be planned to position the observer for best ground observation.

Prior to the flight, a briefing will be held with the pilot explaining the purpose of the mission, what is to be expected and all safety considerations are discussed. When selecting aircraft for reconnaissance work, it is best to select an aircraft with high wing profile. It is important to select an aircraft with good performance capabilities. All aircraft do not have the same performance capabilities on hot days with unstable air conditions. If unfamiliar with aircraft and have questions, please consult FTC or Forest Aviation Officer.

2. Altitude - the flight altitude is determined by:

- a. Intensity of patrol.
- b. Haze or smoke - amount and altitude.
- c. Width of observation strip
- d. Topography type.
- e. Amount of cloud and terrain shadow.
- f. Sun angle and direction.
- g. Background.
- h. Minimum altitude for safe flight.

The flight should not be less than 500 feet AGL. (FSM 5716.3) Under normal circumstances, most flights are conducted at an intermediate altitude because of terrain and fire reconnaissance responsibilities. A good average altitude for reconnaissance is about 1,500 feet to 2,000 feet above the terrain.

If an altitude is selected that will clear all terrain over the path of flight, with a minimum of maneuvering to avoid the higher isolated mountain peaks, the pilot and observer obtain optimum visual coverage of the surrounding area. Again, knowledge of the country is important in order to determine the best route in relation to drainages, low passes, and higher peaks.

3. Airspeed Under certain conditions, slower speeds may be necessary to adequately observe specific areas. Both high and low speeds have advantages, depending on conditions and observation objectives.

4. Flight patterns

- a. The pilot shall make every effort to maneuver the airplane to provide the best possible view of the terrain. The observer should direct the pilot regarding flight path and will probably request frequent altitude and pattern changes. Each area should be thoroughly investigated.
- b. The flight pattern should be worked out from maps, profiles, and actual flights in order that all important areas are directly visible and are in fairly close range to the observer. Air observers should continue to improve the patrol routes and make adjustments to the patrol by the following:
 - Preparation of maps showing the areas to be covered
 - Increase the number of cross-section profiles showing the most important points first.
 - Adjust flight altitude as more profiles are made.
 - Place areas with backgrounds which limit visibility on the proper profile for flight path adjustments.

5. Observations-

a. Coverage - The first glance outside the airplane should allow for the eyes to readjust focally. Thereafter, the eyes should be moved slowly and systematically encompassing the areas to be observed. Then observe targets which require special attention.

b. Distance

- (1) Compare lineal measurements of objects either visually or from maps and aerial photographs. Lakes,

roads, runways, and similar landmarks are suitable for this purpose.

(2) Measure the approximate distance by using flight time and air speed. Refer to GPO1969 351410, Flight/Fire Acreage Calculator.

c. Slope - Slopes may be estimated from topographical maps and slope indicators.

6. Safety - The pilot should keep the observer advised of the flight conditions, such as adverse weather or low fuel, and shall ensure that the flight or any requested maneuver can be accomplished safely. At any time the mission appears to be in doubt, cancel the mission and return to base. The pilot has the responsibility for the safety of the plan and passengers, but the Forest Service observer has the responsibility to see that the mission is accomplished with a margin of safety.

Communication requirements for point-to-point and reconnaissance flights:

A. Aircraft being used must have operating radios with Forest and air net channels. Otherwise the mission will be terminated immediately.

B. Check in with FTC every 15 minutes or if deviating from planned flight path. This is done by the Aerial Observer. If radio communications fails while airborne, abort the mission and return to base. This applies to reconnaissance flights. The mission will not be reactivated upon landing until communications are restored.

POST-FLIGHT PROCEDURES

Upon conclusion of the flight, the following items must be completed with the pilot.

1. A FS-6500-122 Flight Use Report needs to be completed. For Forest Service Flights this is now done using the on-line form in Aviation Business System. These items need to be filled out by the Fixed-wing Flight Manager. The Contractor should approve of 122 before it is submitted on-line.

Any accident or incident must be reported to a FS dispatcher or FAO **immediately**. Names and phone numbers of personnel available for accident/incident notification are in the Aviation Incident/Accident Response Guide maintained by the Aircraft Dispatcher in FTC.

INCIDENT & ACCIDENT REPORTING

All major and minor aircraft accidents and incidents will be reported by the Fixed Wing Flight Manager. Reports will be made on Form FS-5700-14, Aircraft Initial Report. These are to be submitted to FAO within 48 hours after the incident occurred. See Plan #1 Aviation Incident/Accident Response Guide

Any incident/accident reports will be filled out on an Aircraft Initial Report (FS-5700-14). These should be filled out immediately and reported to the Forest Aviation Officer.

1. Major accident - Total destruction or substantial damage to the aircraft and/or serious or fatal injury to personnel. Cost to repair is estimated to exceed \$5,000 and/or 200 hours labor.

2. Minor accident - Damage to aircraft components and/or minor injury to personnel. Cost to repair is in excess of \$1,000 and/or 50 hours labor, but less than \$5,000.

3. Incident - Any air or ground mishap, malfunction, or situation involving aircraft and/or personnel which results in deviation from standard procedures and has the potential or resulting in an accident. All occurrences

involving actual or potential injury, death, or damage must be reported. Examples:

- a. Precautionary or emergency landings, such as for fuel exhaustion.
- b. Damage to any aircraft component less than \$1,000.
- c. Engine malfunction resulting in an emergency landing or in-flight shutdown; includes damage to power-plant and/or accessories.
- d. Loss of partial failure of a system or component essential to safe flight.
- e. Near misses or obstacles or other aircraft during flight or ground operation.
- f. Bird strikes.
- g. Smoke in cockpit or fire in flight.
- h. Jettisoning or loss of cargo, sling loads, retardant, or other chemicals.
- i. Lightning strikes.
- j. Violation of pilot duty limitation.
- k. Overloading of aircraft.

4. Hazard - A situation existing on-the-ground or in the air which could create a problem when aircraft or personnel are introduced. Examples:

- a. Use of unqualified personnel or insufficient number of personnel managing air operations.
- b. Improper location of helispots or flight routes.
- c. Lack of improvement or improper marking of heliports and helispots.
- d. Use of unapproved aircraft and pilots.
- e. Exposure of personnel to excessive noise and dust without adequate ear and/or eye protection.
- f. Observed deviations of written policies and/or directives.

Reports of accidents and incidents are used to determine trends and to help in preventing future mishaps. Often they aid in pointing out areas where training programs should be developed. It is important to the aviation safety effort that all incidents are reported promptly. These reports should be reviewed by Forest Aviation Officers and routed according to FSM 5710, 6730, and FSM 5309.11. Hazard reports may be made by telephone or memo to the appropriate safety officer or Forest Aviation Officer.

AIR SPACE RESTRICTIONS

The purpose of designating an area within which temporary flight restrictions apply is to prevent a hazardous congestion of unessential aircraft over a wildland fire, disaster site, or other event which may generate a high degree of public interest. Temporary flight restrictions are described fully in FAR 91.137.

Map of currentTFRs in Northern CO: http://tfr.faa.gov/tfr_map_ims/html/ns/scale3/tile_2_3.html

When it becomes necessary to restrict nonparticipating aircraft from the area of fire-fighting aviation operations, an IC, Project Manager, Dispatch Center Manager or Forest Aviation Officer may request the air closure. The Rocky Mountain Area Coordination Center will coordinate with the FAA. The normal closure is 2,000 feet AGL and a 5-mile radius from center of the fire. A legal description, VOR coordinates and Latitude and Longitude will be necessary for closure.

Reconnaissance flights will be at least 2,000 feet above maximum elevation of air tanker during air tanker drops and will remain 1,000 feet above terrain during helicopter operations. Communications will be established during any operation and be maintained by both aircraft.

If a lead plane is with the air tanker, the lead plane will have control responsibility.

General Guidelines:

The standard airspace restriction (2,000 feet above the surface and within 5 nautical mile radius) will normally meet the needs of the less complex incidents.

Operations utilizing helicopters, airtankers, and an air attack supervisor are more complex and require a minimum altitude of 3000 feet above ground level. This size may require substantial increases as complexity increases.

Temporary airspace restrictions only restrict, they normally do not prohibit aircraft entry. Entrance requirements depend on the purpose of the restriction and the category of the aircraft requesting entry. Five different categories of aircraft purposes are allowed in restricted airspace:

Category 1. Aircraft participating in the disaster relief effort.

Category 2. Aircraft carrying law enforcement officials.

Category 3. Aircraft operating directly to or from an airport within the restricted area, and aircraft that due to weather are unable to avoid the area and will not interfere with relief aircraft operations.

Category 4. Aircraft operating under positive control of air traffic control.

Category 5. Aircraft carrying accredited news representatives (media).

If the restricted airspace was initiated for purpose No. 1, to protect persons and property on the surface or in the air from a hazard associated with an incident on the surface, then:

Only aircraft from category 1 are allowed inside the restricted airspace.

If the restricted airspace was initiated for purpose No. 2, to provide a safe environment for the operation of disaster relief aircraft, then:

Category 1 and 2 aircraft are allowed with no restrictions.

Category 3 aircraft are allowed if notification is given to the FAA and the flight will not hamper relief aircraft operations.

Category 4 aircraft are allowed at the discretion of air traffic control.

Category 5 aircraft are allowed over the area of the restriction if on a FAA/VFR flight plan and they do not descend below the altitude specified for operations of disaster relief aircraft. Descent below this altitude is permissible with the consent of the official in charge of the incident.

Procedures and Conditions:

1. Upon contact the District or Incident, refer then to the FTC Dispatch Center.
2. An operable radio to contact the Dispatch Center, Air Attack Supervisor/LeadPlane, or Helibase Manager. Primary frequency will be 122.925.
3. There must not be any aviation operation activity going on at the time.

4. Other aircraft may enter the area when aircraft are not working or under direction and coordination of Air Operations Director and/or Air Attack after establishing radio contact.
5. Other aircraft should get their coverage and be done when air operations begin or are directed to leave by Air Operations.
6. Other aircraft should notify Air Operations when they leave the area.
7. Other aircraft may only land at base heliport if they are given permission by Air Operations.

If the restricted airspace was initiated for purpose No. 3, to prevent unsafe congestion of sightseeing and other aircraft above an incident or event which may generate a high degree of public interest then:

Category 1, 2, and 3 aircraft may enter with no restrictions.

Category 4 aircraft will be allowed into the restricted airspace at the discretion of air traffic control.

Category 5 aircraft only need to file an FAA flight plan. No altitude restrictions are imposed.

The media has a need to gather and report the news events. Flight or Fire Managers can provide an avenue to accomplish this and provide a safe environment for fire suppression aircraft through cooperation and coordination with all concerned parties.

AIR TANKER BASE OPERATIONS

See Jeffco Airtanker Base Operating Plan for further detail.

1. Any Jeffco airtankers are dispatched by FTC according to approved specific action and staffing guides in response to requests from the IC or aerial supervision. Tanker shall be dispatched on a first request basis. If competition between fires exists, threat to life or property (high resource value) shall take precedence. If more than one airtanker is working out of the Jeffco ATB, aircraft can be diverted as needed to meet changing mission objectives.

Initial attack on confirmed wildfires will normally have first priority for aerial fire suppression, determined by Forest Duty Officer or appropriate aerial supervision.

2. The specific leadplane ordering matrix is provided in the Rocky Mountain Area Mobilization Guide. A lead plane will be requested at any time when the air tanker pilot is not initial-attack qualified. If a lead plane is available at Jeffco it may be ordered as a safety precaution. Multiple aircraft will also require a lead plane.

3. A base manager is assigned to the base at all times when an air tanker is stationed at the facility. The airtanker base manager is responsible for all ground service operations, aircraft rotation, and operational safety.

4. The Colorado State Forest Service contracts a Single Engine Airtanker on an annual basis. This resource may be based at Jeffco or at The Ft. Collins/Loveland Airport. This operation is under the management of the Colorado State Forest Service. The Annual Operating Plan will be available in FTC. Every effort should be made to standardize the use of this resource using federal aviation guidelines and policy.

HELICOPTER OPERATIONS

See ARF Helicopter Operations Plan for further detail

1. All Interagency operations will be compliant with the Interagency Helicopter Operations Guide.

2. The helicopter manager will be held accountable for implementation of helicopter use policies, such as observing allowable gross weight, load calculations, no flying during hazardous wind conditions, poor visibility conditions, inoperable radio communication gear and/or other equipment.
3. A helibase manager and/or a helicopter manager will be assigned to all helicopter operations. (The helitack manager may act in the capacity of Helibase Manager on single helicopter use projects).
4. A helispot manager will be assigned to all helicopter landing spots that will be used for loading and unloading personnel and equipment on a recurring basis. Wind direction and velocity will be monitored at all landing spots.
5. Only qualified persons shall be assigned to manage helicopters and be helicopter crewmembers.
6. Fire resistant clothing and helmets will be worn by all personnel riding in US Forest Service contracted helicopters, in accordance with IHOG.
7. Ground crews will wear all appropriate PPE, including hardhats, eye and ear protection when working within 100 feet of a helicopter with its rotor turning.
8. A dust abatement program will be established for heliports. The best dust palliative available will be used, i.e., grass pad, sprinkling with water, polybinder, etc.
9. A correct helicopter load calculation form is required for all missions.
10. All helicopter operations that are project work, non-fire related will have an approved helicopter operations safety plan. See Plan #6 Special Project Aviation Safety Plan-Sample.

The only established, useable helibase facility on the ARF is at the Red Feather Work Center and consists of concrete helipad with small office, electrical power, pilot ready room and small storage cache. Coordinates are: Latitude N 40° 47' 41", Longitude W 105° 13' 10".

COOPERATOR REQUESTS

1. Requests by local cooperating agencies for the use of aircraft under contract to the US Forest Service will be made directly to the FTC.
2. Aerial Supervision will be delivered to cooperators as needed, in accordance with procedures identified in the Rocky Mountain Area Mobilization Guide.
3. Communications must be established directly between the responsible individual representing the Cooperator agency and FTC.
4. For private land fires the FTC Dispatcher will notify the appropriate County or Department jurisdiction.

INSPECTIONS

1. The Forest Aviation Officer will inspect all permanent facilities under the jurisdiction of the Forest a minimum of one time each year.
2. All inspections will be documented listing corrective actions to be taken and showing the responsible parties. Safety of operations is the primary concern.
3. Temporary aviation facilities will be inspected on a continuing basis by the air service manager assigned to the facility. If possible, the Forest Aviation Officer should inspect each facility at least once during its operation to assure the prescribed standards and procedures are being followed.
4. The Forest Aviation Officer will attend Aircraft and Pilot inspections for vendor agreements and contract pre-work meetings if applicable. Aircraft payments, and records will be administered by the COR or PI, with

oversight by the FAO.

TRAINING

1. The Forest Aviation Officer is responsible to ensure all Forest personnel assigned to aviation related duties are fully qualified under the Forest Service Fire and Aviation Qualifications Guide (February, 2011).
3. A Helicopter Operations Refresher is held annually, sponsored by the ARF.

AIRCRAFT INCIDENT / ACCIDENT ACTION PLAN

This plan establishes the immediate actions to be taken in the event of an overdue aircraft, or an aircraft incident/accident. It outlines the procedures necessary to activate emergency search and rescue services as well as associated support activities in as rapid and orderly a fashion as possible.

www.fs.fed.us/r2/fire/docs/aircraft_crash_SAR_guide.PDF

SUPPLEMENTAL DOCUMENTS, REFERENCES and LINKS :

The following materials are accessed through FTC or available on-line via the FTC website:

http://gacc.nifc.gov/rmcc/dispatch_centers/r2ftc/FTCAviation.htm

Aviation Incident/Accident Response Plan
Fort Collins Dispatch Center / BJC Dispatch SOP's
Jeffco Airtanker Base Operations Plan
Fort Collins/Loveland SEAT Base Operations Plan
Project Aviation Safety Plan (SAMPLE)
Forest Health Aviation Operations Plan
FTC Area Aviation Hazard Map (GIS Based)
Aviation Risk Assessment Worksheet
FTC Aviation Directories
Airport Digrams/Information (FTC Area)
FTC Aviation Plan
FTC Area Personnel Authorized to order Aircraft
Jeffco (BJC) Airtanker Base Operations Plan
R2 Aviation Management and Safety Plan
Helitanker Use Guide
FAA Temporary Flight Restriction
US Forest Service Aviation Management
GACC Tactical Reports: RMC
Flight Hazard Map FTC
Flight Following / Navigation Tools:
Automated Flight Following (AFF)
Sunrise/Sunset Tables
(NOTAMs) Notice to Airman
FlightPlan
Coordinates (X-Y Data)
Airport Identifiers
Airport/FBO Directory from AC-U-KWIK
Aviation Guides/Manuals:
Aviation Users Pocket Guide
Aviation Weather Training
Standard Aviation Transport of HazMats Guide
BLM Aviation Library
USFS Aviation Library
FSH 5709.16 Flight Operations Handbook
FSH 5700 Aviation Management Handbook
SAFECOM

Interagency Airspace Coordination Guide
NTSB Accident Reports
Aviation Procurement:
OAS Aircraft Source Lists
OAS DOI CWN Program Contract Information
Standard NIFC Aircraft Contracts
DOI Aviation Management

LINKS

Rocky Mountain Area Mob Guide <http://gacc.nifc.gov/rmcc/administrative/publications.html>

FTC Area Aviation Plan http://gacc.nifc.gov/rmcc/dispatch_centers/r2ftc/FTCAviation.htm

Aviation Users Pocket Guide: http://www.fs.fed.us/fire/aviation/av_library/IA%20User%20Pocket%20Guide%202008.pdf

Aviation Incident/Accident Response Guide <http://www.nwcg.gov/pms/pubs/pms503.pdf>

SAFECOM <https://www.safecom.gov/>

FTC/BJC Dispatch SOP's *hardcopy on file at JeffCo ATB and FTC Dispatch, and at:*
http://gacc.nifc.gov/rmcc/dispatch_centers/r2ftc/FTCAviation.htm

Jeffco Airtanker Base Operations Plan/Jeffco ATB Crew/Pilot Orientation Guide *on file at JeffCo and FTC Dispatch and at:*
O:\NFS\ArapahoRoosevelt\Program\5700AviationMgmt\SO\5710Administration\5700_aviation_mgmt\Jeffco ATB\Operations Plan

Fort Collins/Loveland SEAT Operations Plan:
O:\NFS\ArapahoRoosevelt\Program\5700AviationMgmt\SO\5710Administration\5700_aviation_mgmt\Jeffco ATB\Relocation to FNL 2014

FTC Area Aviation Hazard Map: http://gacc.nifc.gov/rmcc/dispatch_centers/r2ftc/images/north_haz_map.jpg

ARF North Zone Helispot Coordinates: http://gacc.nifc.gov/rmcc/dispatch_centers/r2ftc/documents/Helispot_Coordinates.pdf

ARF South Zone Helispot Coordinates & Dip Sites: http://gacc.nifc.gov/rmcc/dispatch_centers/r2ftc/FTCAviation.htm

AFF – Automated Flight Following: <https://www.aff.gov/>

CWN Vendors (pilot qual/aircraft cert) http://www.fs.fed.us/fire/contracting/helicopters_cwn/helicopters_cwn.htm

Aviation Management Information System User's Guide (AMIS)
https://fam.nwcg.gov/fam-web/help/amis/aviation_management_information_system.htm

Region 2 Aviation Management Safety Plan; <http://gacc.nifc.gov/rmcc/logistics/aviation/av06/000> (password protected)

Forest Service Manual (5700) Aviation Management Manual www.fs.fed.us/cgi-bin/Directives/get_dirs/fsm?5700

Interagency Helicopter Operations Guide 2013 (FSH 5709.12) http://www.nwcg.gov/pms/pubs/pms510/00_pms510.pdf

Forest Service Handbook (5709.14) Smokejumper/Paragargo Handbook www.fs.fed.us/cgi-bin/Directives/get_dirs/fsh?5709.14

Forest Service Handbook (5709.16) Flight Operations Handbook www.fs.fed.us/cgi-bin/Directives/get_dirs/fsh?5709.16

Air Space Coordination Guide; https://www.iat.gov/docs/IASCG_2003.pdf

Interagency Airtanker Base Operations Guide (hardcopy at JeffCo ATB)
<http://www.blm.gov/pgdata/etc/medialib/blm/nifc/aviation.Par.84775.File.dat/IABOG.pdf>

Airtanker Base Directory <http://airtanker.org/wp-content/uploads/2013/02/2013-ATB-Directory.pdf>

Aerial Ignition Systems Guide <http://www.nwcg.gov/pms/pubs/pms501.pdf>

JeppGuide Airport Directories (North Central/Western Editions) <http://www.the-airport-guide.com/>

Interagency Aviation Technical Assistance Directory April 2014: <http://www.nwcg.gov/pms/pubs/pms504.pdf>

Aviation Transport of Hazardous Materials Guide: <http://oas.doi.gov/library/handbooks/library/hazmathb0105.pdf>

Aviation Business Systems (ABS) <http://www.fs.fed.us/business/abs/>

Interagency Aviation Training <https://www.iat.gov/>

Aviation Forms <http://gacc.nifc.gov/nrcc/dispatch/aviation/avforms.htm>

Temporary Flight Restrictions http://tfr.faa.gov/tfr_map_ims/html/ns/scale3/tile_2_3.html

Northern Colorado Helitack Operations plan – harcopy on file with Forest Aviation Officer, and on the FTC webpage
http://gacc.nifc.gov/rmcc/dispatch_centers/r2ftc/FTCAviation.htm

Red Feather Helibase Operation Plan:

http://cdb.fs.usda.gov/content/dav/fs/NFS/ArapahoRoosevelt/Program/5700AviationMgmt/SO/5710Administration/5700_aviation_mgmt/Helibase%20Directory/Redfeather_Helibase/Redfeather_Helibase_plan_2005.docx

2014 R2 Approval; Colorado National Guard:

O:\NFS\ArapahoRoosevelt\Program\5100Fire\SO\5170Cooperation\5170_cooperation\2014_CO_NG_aircraft-R2_approval.dotx

2014 RMA A/A and A/G Aviation frequency map: http://gacc.nifc.gov/rmcc/logistics/aviation/av06/RMA_AA_AG_Freq_Map.pdf

USFS Library of Manuals, Guides and Handbooks: http://www.fs.fed.us/fire/aviation/av_library/index.html

Office of Aircraft Services – Handbooks, Guides and Publications: <http://oas.doi.gov/library/handbooks.htm>